

US EPA RECORDS CENTER REGION 5



466404

Monthly Oversight Report 56
44728 AES [46526 RAC]
ACS NPL Site
Griffith, Indiana
August 6, 2005 – September 2, 2005



BLACK & VEATCH

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Black & Veatch Special Projects Corp.

USEPA/RAC VII
American Chemical Service, Inc. RAO (057-ROBF-05J7)

BVSPC Project 46526
BVSPC File C.3
September 23, 2005

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report
No. 56 for August 2005

Dear Mr. Adler:

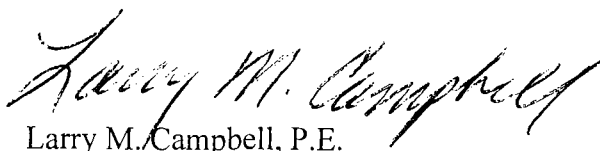
Enclosed is the Monthly Oversight Summary Report No. 56 for August 2005 for the American Chemical Service, Inc. Superfund Site in Griffith, Indiana.

We apologize for the lateness of this report. As you know, I was on temporary assignment in Mississippi as a result of Hurricane Katrina.

If you have any questions, please call (312-683-7856) or email (campbellm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.


Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 56
ACS Superfund Site
TO 057, 44728.238 AES [WA57, 46526.238 RAC]

Reporting Period: Month of August (August 6, 2005 – September 2, 2005)

BVSPC O/S Dates: August 9, 11, 15, 18, & 23, 2005 (Mr. Campbell)

| Personnel Summary Affiliation | No. of Personnel | Responsibility |
|--|------------------|---------------------------------|
| Montgomery Watson Harza | 3 | Respondent's General Contractor |
| U.S. Environmental Protection Agency | 1 | Federal Regulatory Agency |
| Indiana Department of Environmental Management | 1 | State Regulatory Agency |
| Black & Veatch Special Projects Corp. | 1 | USEPA Oversight Contractor |
| ISOTEC | 4 | Chemical Oxidation Contractor |
| PSA Environmental | 2 | Geoprobe Contractor |
| Walsh & Kelly | 2 | Traffic Control Contractor |
| Boart Longyear | 4 | Drilling Contractor |
| Austgen | 1 | General Contractor |
| Microbac | 1 | GWTP Sampling Contractor |

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant, the in-situ soil vapor extraction systems, and the air sparge systems.
- ISOTEC and PSA Environmental completed the third full-scale in-situ chemical oxidation injection program in the off-site South Area groundwater plume area.
- Boart Longyear completed installing temporary, extraction, observation, and monitoring wells as part of the second phase of the lower aquifer investigation.
- Boart Longyear abandoned the temporary wells installed in phase 1 of the lower aquifer investigation.

- Microbac (formerly Simalabs) collected samples from the groundwater treatment plant for routine process monitoring.
- Montgomery Watson Harza held construction coordination meetings on August 11, 18, and 25, and the monthly operation status meeting on September 2.

Activities Performed:

Montgomery Watson Harza (MWH) reported (September 2) that the groundwater treatment plant (GWTP) was operational 94% of the time (29 of 31 days) in August, processing 1,052,683 gallons of groundwater at average rates of 25 to 40 gpm. The GWTP shutdown because a floor sump clogged with wood chips from the lower aquifer investigation and again because of an electrical power outage on August 19. MWH reported that groundwater was being pumped to the GWTP from all trench and well sources. Microbac (formerly Simalabs) collected samples from the GWTP for routine process monitoring. MWH reported that the blower portion of blower ME104 was replaced using a mechanical lift to exchange the heavy blower unit.

MWH continued to operate the On-Site Containment Area (ONCA) SBPA and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems and the OFCA and SBPA air sparge systems.

MWH reported that thermox 1 operated for 28 of the 31 days in August, processing 1,000 cfm of vapors from the ONCA SBPA ISVE system, collecting vapors from 23 of the 46 ISVE wells. MWH reported that it repaired the scrubber quench ducting and returned thermox 1 to operation.

MWH reported that thermox 2 operated for 28 of the 31 days in August, processing 2,000 cfm of vapors collected from all 42 OFCA ISVE wells and aeration tank T102. MWH reported that a caustic leak caused shut down of thermox 2. The leak was repaired and normal service performed on the unit; thermox 2 was returned to service on August 20. MWH reported that operation of the GWTP continued while thermox 2 was out of service by routing the vapors from aeration tank T102 through thermox 1.

MWH reported that it pumped 35 gallons of product from five ISVE wells in the SBPA on August 24. MWH reported that it used a special pump to remove 32 gallons of the more viscous product from well SVE61 on August 24. The product was manually transferred to the oil holding tank T6 in the GWTP.

MWH reported that 19 of the recently repaired SBPA dual-phase extraction (DPE) well pumps were working properly. DPE pumps were not installed in SVE61 and SVE65 because of the very viscous product in these wells. This product will be removed manually using the new special pneumatic pump.

MWH reported that the planned upgrades to the SBPA ISVE system are still in progress and that it plans to place orders soon for long-lead-time items.

MWH reported that ACS had not reported a recurrence of odors in its break room on the SBPA.

MWH reported that ISOTEC and PSA personnel returned to the site on August 8 to complete the in-situ chemical oxidation (ISCO) injection points beneath Colfax Avenue. Personnel from Walsh & Kelly provided traffic control as one lane at a time of Colfax Avenue was closed for this work. MWH reported

that 67 points were injected beneath the Colfax Avenue roadway. ISOTEC expedited the work on Colfax Avenue by using four injection pumps. All ISCO activities were completed on August 12, and the ISCO contractors demobilized from the site on that date.

On August 11, an IDEM hazardous spill inspector stopped at the site in response to a citizen's call indicating that a peroxide spill had occurred at the site (presumable in the area of the ISCO activities). ISOTEC and MWH personnel confirmed to the IDEM inspector that no peroxide spill had occurred.

Boart returned to the site on August 8 and began the second rotation of Phase 2 of the lower aquifer investigation on August 9. As previously requested by MWH, Boart replaced its existing Bobcat loader with one that had an operating back-up alarm. Boart drilled and installed temporary well LA12, similar to the other temporary LA wells, 4-in.-diameter extraction well EW2, 2-in.-diameter observation well OW2, and the new 2-in.-diameter stainless steel permanent monitoring well MW57 (near LA11).

MWH reported that Boart abandoned temporary wells LA3, LA4, LA6, LA7, LA8, and LA9 (installed during the first phase of the lower aquifer investigation) by drilling 1 foot deeper than the casing depth and backfilling the hole and casing with bentonite grout. The well casings were cut off 2 feet below ground surface and covered with concrete and soil. MWH reported that Boart surged and pumped the new EW2 but obtained little sediment. MWH reported that Boart completed its lower aquifer investigation activities, decontaminated its equipment, and demobilized from the site on Tuesday August 16.

MWH used a peristaltic pump and developed MW57, LA11, LA12, LA13, and LA15, pumping the extracted water to the GWTP. Development of LA14, OW2, and EW2 will be conducted when ponded water around these wells subsides.

MWH reported that it will restore the disturbed ground surface around the lower aquifer investigation wells and also restore the pathways leading to the wells.

MWH reported that ACS production activity has increased and it will begin 7-day per week work activity at the site.

EPA Task Order Project Officer (TOPO) concluded that additional indoor air sampling would not be required at the residence at 1002 Reder Road because the observed concentrations in the initial sampling were not sufficiently large to be of concern.

MWH conducted construction coordination meeting on 3 days during the reporting period (August 11, 18, and 25) and the August operation & maintenance (O&M) status meeting at its Chicago office on September 2. BVSPC attended these meetings.

Because of the lack of field activity, weekly reports are not attached. Weekly reports will be prepared in the future if there are sufficient field activities to warrant such reporting. However, correspondence, log book notes and photographs of the daily activities are attached. BVSPC conducted oversight of the field activities on August 9, 11, 15, 18, and 23.

Topics of Concern: None

Concern Resolution: None

Upcoming Activities:

- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE and air sparge systems.
- MWH to install upgrades to the SBPA ISVE system
- MWH to monitor odors in the ACS break room.
- MWH and Global to remediate the leaking tubes in thermox 2 heat exchanger.
- MWH to continue pumping product from selected ONCA SBPA DPE wells
- MWH to complete development and chemical sampling of the Phase 2 lower aquifer investigation wells and conduct the pumping test.
- MWH to conduct semiannual groundwater monitoring well sampling and annual residential well sampling.
- MWH to conduct post-application sampling of the third full-scale ISCO event.
- MWH will continue weekly construction coordination meetings at the site during the lower aquifer investigation, the groundwater well sampling, and the post-application ISCO sampling event.

Signature: Larry Campbell

Date: September 23, 2005

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**SITE STATUS MEETING MINUTES
FOR AUGUST 11, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, August 11, 2005

MEETING TIME: 10:00 a.m.

MEETING LOCATION: ACS Site

ATTENDEES: Kevin Adler – U.S. EPA (by phone)
Larry Campbell – Black & Veatch
Amy Clore - MWH
Chris Daly – MWH (by phone)
Todd Lewis – MWH (by phone)
Adam Norris – MWH
Lee Orosz – MWH
Peter Vagt – MWH

TOPICS:

SITE STATUS

Chemical Oxidation (Chem-Ox)

The second part of the 3rd Phase of Chemical Oxidation treatment was started on July 25th. The first week was spent completing the injection locations in the yard and along the road. The second work rotation was started on Monday, August 8, and the focus is to complete 67 injection points within the Colfax Avenue roadway. The work crew was on standby on Thursday morning because of thunderstorms in the area. By the end of Wednesday, August 10, 53 of the injection points had been completed. The remainder of the points are anticipated to be completed by August 12, 2005 (weather permitting).

No health and safety incidents have occurred during the execution of this task. Walsh & Kelly are providing traffic control. Daily Health & Safety meetings are being conducted each morning prior to beginning work.

A call was placed to Griffith Public Works to determine if the city had any concerns regarding progress of the work or the traffic control procedures utilized. None were expressed. Public Works vehicles have driven past the site several times during the week; to date none have stopped to express any concerns.

Lower Aquifer Investigation, Phase 2

The second ten-day work rotation for the lower aquifer investigation was mobilized to the site on Monday afternoon and work started again on Tuesday morning, August 9th. At

the time of the Thursday morning meeting the work crew was also on standby because of the local thunderstorms. At the time of the weather delay, the originally planned LA-wells had been installed, and drilling for the observation well (OW-2) had been started. When weather permits, work will resume, completing OW-2, installing EW-2, installing MW-57 (at location LA-11), and abandoning the seven remaining casings installed for phase 1 of the Lower Aquifer Investigation.

General Site Health and Safety

There have been no health and safety issues since the last meeting on July 29th. Mosquitoes and wasps are numerous across the ACS site. Bug spray is recommended for personnel who will be working outside.

Miscellaneous

- Indoor Air Sampling, 1002 Reder Road – Kevin Adler stated that a follow-up sampling event will not be necessary. The concentrations indicated in the first sampling event were not high enough to be a concern. Because a vapor mitigation system has been installed at the residence, the corrective action that would have resulted from any further investigation has already been implemented. The results were communicated to the residents. MWH will issue a letter report summarizing the results of the first sampling event. The report will include MWH's observations of items that were located in the basement that may have influenced the sample collection and analysis.
- SBPA ISVE System Upgrades – Todd Lewis intends to meet with the PRP Group representative to receive authorization for the work. Once authorization is received, construction can commence within a few weeks. MWH anticipates work to commence before the end of August.
- ACS Break Room – ACS personnel cut a portion of the concrete sidewalk next to the building and filled the space with asphalt tar to prevent potential vapor migration. At this time, the two air sparge points nearest the building (AS-1 and AS-2) are still not operating.
- Dual-Phase Extraction (DPE) Pumps – The 19 pumps that were cleaned, repaired, and/or replaced in the DPE wells continue to function well, bringing in approximately 40 gpm. MWH is evaluating the capacity of the air compressor in the GWTP to continue to deliver air to the pneumatic DPE pumps. If necessary, an auxiliary compressor may be installed in Building 2 of the SBPA ISVE System.
- Noise Abatement, Blower ME-102 – Residents have expressed no further concerns regarding the noise from the GWTP blowers.

LOOK AHEAD

Field Events

- Lower Aquifer, Phase 2 Event – anticipated schedule:
 - Complete Well installations: August 16th

- Complete Phase 1 Casing Abandonment: August 18
- Well Development: Start August 15
- Pump Test: tbd
- Well Sampling: tbd
- Chemical Oxidation, Third Full-Scale Event – anticipated schedule:
 - Complete injection: August 12 (weather pending)
 - Post-Application Sampling: September 12-16

Health & Safety Look Ahead

- Safety issues associated with the Lower Aquifer Investigation.
- Safety issues associated with the Chemical Oxidation Treatment, including traffic control.

Future Meetings

- Site Status Meeting – Thursday, August 18, 2005, 10 a.m. at the ACS Trailer
- With both the Lower Aquifer and Chemical Oxidation work, meetings are occurring on a weekly basis.

CAD/JV

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**SITE STATUS MEETING MINUTES
FOR AUGUST 18, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, August 18, 2005

MEETING TIME: 10:00 a.m.

MEETING LOCATION: ACS Site

ATTENDEES: Larry Campbell – Black & Veatch
Amy Clore – MWH (by phone)
Chris Daly – MWH (by phone)
Adam Norris – MWH
Lee Orosz – MWH
Peter Vagt – MWH (by phone)

TOPICS:

SITE STATUS

Chemical Oxidation (Chem-Ox)

The third full-scale Chemical Oxidation application was completed on Friday, August 12th. A total of 210 injection points were completed, 67 of which were injected within the Colfax Avenue roadway. MWH is planning a post-application sampling event for the first week in October. A letter report to the Agencies will be submitted beforehand summarizing the third round injection, as well as the proposal for the post-application sampling. After approval by the Agencies, we will proceed with the sampling.

No health and safety incidents occurred during the execution of this task. Walsh & Kelly provided traffic control for the Chem-Ox injections in the roadway. Daily Health & Safety meetings were conducted each morning prior to beginning work.

On Thursday, August 11th, while the Chem-Ox work crew was on standby due to severe weather, a representative from the Indiana Department of Environmental Management (IDEM) stopped by the site in response to a phone call of a peroxide spill in the area. MWH confirmed that there was no spill associated with the Chem-Ox work or with MWH's activities at the site.

Lower Aquifer Investigation, Phase 2

The well installation drilling for the lower aquifer investigation and well abandonment from the Phase 1 Lower Aquifer Investigation was completed on August 18th. A total of eight lower aquifer wells were installed (LA-11, LA-12, LA-12, LS-14, LA-15, EW-2, 13

OW-2 and MW57). In addition, seven well casings that remained from the Phase 1 Lower Aquifer Investigation were abandoned. The remaining work for the investigation includes: well development of the new wells, sampling the new wells, and performing a pumping test of the lower aquifer investigation. The heavy equipment involved with the well installation left many tire ruts around the work area. Restoration of the work area will be necessary to re-establish the pathways that existed prior to the well installation.

No health and safety incidents have occurred during the execution of this task.

General Site Health and Safety

There have been no health and safety issues since the last meeting on August 11th. Mosquitoes and wasps are numerous across the ACS site. Bug spray is recommended for personnel who will be working outside.

Miscellaneous

Indoor Air Sampling, 1002 Reder Road – Kevin Adler stated that a follow-up sampling event will not be necessary. The concentrations indicated in the first sampling event were not high enough to be a concern. Because a vapor mitigation system has been installed at the residence, the corrective action that would have resulted from any further investigation has already been implemented. The results were communicated to the residents. MWH will issue a letter report summarizing the results of the first sampling event. The report will include MWH's observations of items that were located in the basement that may have influenced the sample collection and analysis.

Dual-Phase Extraction (DPE) Pumps – The 19 pumps that were cleaned, repaired, and/or replaced in the DPE wells continue to function well, bringing in approximately 40 gpm. MWH is evaluating the capacity of the air compressor in the GWTP to continue to deliver air to the pneumatic DPE pumps. If necessary, an auxiliary compressor may be installed in Building 2 of the SBPA ISVE System.

SBPA ISVE System Upgrades – Todd Lewis intends to meet with the PRP Group representative to receive authorization for the work. Once authorization is received, construction can commence within a few weeks.

LOOK AHEAD

Field Events

- Lower Aquifer, Phase 2 Event – anticipated schedule:
 - Well Development: Start August 15
 - Well Sampling: September 29-30
 - Pump Test: October 10-14
- Chemical Oxidation, Third Full-Scale Event – anticipated schedule:
 - Post-Application Sampling: October 3-7

- Groundwater Monitoring
 - September 2005 Groundwater Monitoring: September 19-23
 - Annual Residential Well Sampling: September 19-23

Health & Safety Look Ahead

- Safety issues associated with the Lower Aquifer Investigation.

Future Meetings

- Site Status Meeting - Thursday, August 25, 2005, 10 a.m. at the ACS Trailer
-

Attachments

Anticipated work schedule through mid-October.

ALC/CAD/PJV

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2005

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|--------|---|----|----|--------------------------------------|----|----|-----------|
| Aug 05 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| | Lower Aquifer Well Development | | | | | | |
| | 28 | 29 | 30 | 31 | 1 | 2 | 3 |
| | | | | | | | |
| Sep 05 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | Labor Day | | | | | | |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | | | | | | | |
| | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | September 2005 Groundwater Monitoring and Residential Well Sampling Event | | | | | | |
| | 25 | 26 | 27 | 28 | 29 | 30 | 1 |
| | | | | Lower Aquifer Investigation Sampling | | | |
| | September 2005 Groundwater Monitoring and Residential Well | | | | | | |
| Oct 05 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Unsat. Zone Spill out - No Availability Sample | | | | | | Skip test |
| | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | Lower Aquifer Pump Test | | | | | | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| | | | | | | | |
| | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| | | | | | | | |
| | 30 | 31 | 1 | 2 | 3 | 4 | 5 |

**SITE STATUS MEETING MINUTES
FOR AUGUST 25, 2005 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, August 25, 2005

MEETING TIME: 10:00 a.m.

MEETING LOCATION: ACS Site

ATTENDEES: Larry Campbell – Black & Veatch
Lec Orosz – MWH
David Powers – MWH
Chris Daly – MWH (by phone)
Peter Vagt – MWH (by phone)

TOPICS:

SITE STATUS

Health & Safety

There were no health and safety issues at the site since the last meeting on August 18. During well development activities associated with the Lower Aquifer Investigation, air monitoring has been conducted in worker's breathing zones and around the generator.

Lower Aquifer Investigation, Phase 2

Development of the wells installed continued this week. To date, lower aquifer wells LA-11 and LA-12 have been developed. Development of LA-13 is anticipated to be completed by the end of Thursday, August 25, and development of LA-15 is scheduled for August 26. Development of LA-14 and the observation well, OW-1 will be scheduled after next week, when ponded water near the wells subsides or MWH restores the ground surface. The extraction well, EW-2, will be developed prior to the pumping test (anticipated to be performed in October).

Restoration of the ground surface near the wells will be completed soon. Details of MWH's actions associated with this task along with a more detailed schedule will be discussed in next week's meeting.

Miscellaneous

GWTP and ISVE System Status. No significant problems occurred during the past week in operation of the GWTP and the ISVE Systems. The systems were offline from late Friday, August 19 to early Saturday, August 20 due to an electrical storm. As a result of the storm, a logic card in the PLC was damaged and needs to be replaced. This does not affect operation of the treatment systems.

LOOK AHEAD

Field Events

- Lower Aquifer, Phase 2 Event – anticipated schedule:
 - Well Development: to be completed prior to sampling
 - Well Sampling: September 29-30
 - Pump Test: October 10-14
- Chemical Oxidation, Third Full-Scale Event – anticipated schedule:
 - Post-Application Sampling: October 3-7
- Groundwater Monitoring
 - September 2005 Groundwater Monitoring: September 19-29
 - Annual Residential Well Sampling: September 19-29

Future Meetings

- Site Status Meeting – Thursday, September 2, 2005, 11 a.m. at MWH's Chicago Office.

Attachments

Anticipated work schedule through mid-October

CAD/TV

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2005

| | | | | | | | |
|--------|---|----|----|----|----|----|----|
| Aug 05 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| | Lower Aquifer Well Development | | | | | | |
| | 28 | 29 | 30 | 31 | 1 | 2 | 3 |
| Sep 05 | 4 | | 6 | 7 | 8 | 9 | 10 |
| | Labor Day | | | | | | |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | September 2005 Groundwater Monitoring and Residential Well Sampling Event | | | | | | |
| | 25 | 26 | 27 | 28 | 29 | 30 | 1 |
| | Lower Aquifer Investigation Sampling | | | | | | |
| | September 2005 Groundwater Monitoring and Residential Well | | | | | | |
| Oct 05 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Third Pill-Site Application of Air Application System | | | | | | |
| | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | Lower Aquifer Pump Test | | | | | | |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| | 30 | 31 | 1 | 2 | 3 | 4 | 5 |

RECEIVED

SEP 02 2005

| Remedial Progress Report | August-05 | L.M. CAMPBELL | Report Date: 9/2/2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|--------------------------|-------------------------------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| GWTP & Dewatering | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The GWTP was operational for 29 days out of 31 days in August (94%). Total Gallons treated = 1,052,683 gallons since 7/29/05 (28 days).</p> | | <p>Tables, Graphs & Figures Table - Effluent Summary Graphs - Off-Site Dewatering Graphs - SBPA Dewatering</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SBPA ISVE System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>System was operational 28 out of 31 days in August (90%). System monitoring was conducted on 8/31/05. The next monitoring event is scheduled for 9/20/05.</p> | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left;">Active Wells (23 of 46 total)</th> </tr> <tr><td>SVE-43</td><td>SVE-67</td></tr> <tr><td>SVE-45</td><td>SVE-68</td></tr> <tr><td>SVE-47</td><td>SVE-70</td></tr> <tr><td>SVE-48</td><td>SVE-71</td></tr> <tr><td>SVE-55</td><td>SVE-74</td></tr> <tr><td>SVE-56</td><td>SVE-75</td></tr> <tr><td>SVE-57</td><td>SVE-76</td></tr> <tr><td>SVE-58</td><td>SVE-83</td></tr> <tr><td>SVE-59</td><td>SVE-85</td></tr> <tr><td>SVE-60</td><td>SVE-86</td></tr> <tr><td>SVE-63</td><td>SVE-87</td></tr> <tr><td>SVE-64</td><td></td></tr> </table> | | Active Wells (23 of 46 total) | | SVE-43 | SVE-67 | SVE-45 | SVE-68 | SVE-47 | SVE-70 | SVE-48 | SVE-71 | SVE-55 | SVE-74 | SVE-56 | SVE-75 | SVE-57 | SVE-76 | SVE-58 | SVE-83 | SVE-59 | SVE-85 | SVE-60 | SVE-86 | SVE-63 | SVE-87 | SVE-64 | | | | | | | | | | | | | | | | | | | |
| Active Wells (23 of 46 total) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-43 | SVE-67 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-45 | SVE-68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-47 | SVE-70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-48 | SVE-71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-55 | SVE-74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-56 | SVE-75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-57 | SVE-76 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-58 | SVE-83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-59 | SVE-85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-60 | SVE-86 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-63 | SVE-87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Tables, Graphs & Figures Table - Sampling Data Graph - Mass Extraction Graph - Total VOC removal - data under validation</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Product Removal</th> <th style="text-align: left;">8/24/2005</th> </tr> <tr><td>SVE-52</td><td>3 gal.</td></tr> <tr><td>SVE-53</td><td>15 gal.</td></tr> <tr><td>SVE-62</td><td>7 gal.</td></tr> <tr><td>SVE-72</td><td>5 gal.</td></tr> <tr><td>SVE-88</td><td>5 gal.</td></tr> <tr><td>SVE-61</td><td>32 gal.</td></tr> </table> | Product Removal | 8/24/2005 | SVE-52 | 3 gal. | SVE-53 | 15 gal. | SVE-62 | 7 gal. | SVE-72 | 5 gal. | SVE-88 | 5 gal. | SVE-61 | 32 gal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Removal | 8/24/2005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-52 | 3 gal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-53 | 15 gal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-62 | 7 gal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-72 | 5 gal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-88 | 5 gal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-61 | 32 gal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Off-Site ISVE System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>System was operational 28 out of 31 days in August (90%). System monitoring was conducted on 8/31/05. The next monitoring event is scheduled for 9/20/05.</p> | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left;">Active Wells (42 of 42 total)</th> </tr> <tr><td>SVE-01</td><td>SVE-22</td></tr> <tr><td>SVE-02</td><td>SVE-23</td></tr> <tr><td>SVE-03</td><td>SVE-24</td></tr> <tr><td>SVE-04</td><td>SVE-25</td></tr> <tr><td>SVE-05</td><td>SVE-26</td></tr> <tr><td>SVE-06</td><td>SVE-27</td></tr> <tr><td>SVE-07</td><td>SVE-28</td></tr> <tr><td>SVE-08</td><td>SVE-29</td></tr> <tr><td>SVE-09</td><td>SVE-30</td></tr> <tr><td>SVE-10</td><td>SVE-31</td></tr> <tr><td>SVE-11</td><td>SVE-32</td></tr> <tr><td>SVE-12</td><td>SVE-33</td></tr> <tr><td>SVE-13</td><td>SVE-34</td></tr> <tr><td>SVE-14</td><td>SVE-35</td></tr> <tr><td>SVE-15</td><td>SVE-36</td></tr> <tr><td>SVE-16</td><td>SVE-37</td></tr> <tr><td>SVE-17</td><td>SVE-38</td></tr> <tr><td>SVE-18</td><td>SVE-39</td></tr> <tr><td>SVE-19</td><td>SVE-40</td></tr> <tr><td>SVE-20</td><td>SVE-41</td></tr> <tr><td>SVE-21</td><td>SVE-42</td></tr> </table> | | Active Wells (42 of 42 total) | | SVE-01 | SVE-22 | SVE-02 | SVE-23 | SVE-03 | SVE-24 | SVE-04 | SVE-25 | SVE-05 | SVE-26 | SVE-06 | SVE-27 | SVE-07 | SVE-28 | SVE-08 | SVE-29 | SVE-09 | SVE-30 | SVE-10 | SVE-31 | SVE-11 | SVE-32 | SVE-12 | SVE-33 | SVE-13 | SVE-34 | SVE-14 | SVE-35 | SVE-15 | SVE-36 | SVE-16 | SVE-37 | SVE-17 | SVE-38 | SVE-18 | SVE-39 | SVE-19 | SVE-40 | SVE-20 | SVE-41 | SVE-21 | SVE-42 |
| Active Wells (42 of 42 total) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-01 | SVE-22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-02 | SVE-23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-03 | SVE-24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-04 | SVE-25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-05 | SVE-26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-06 | SVE-27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-07 | SVE-28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-08 | SVE-29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-09 | SVE-30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-10 | SVE-31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-11 | SVE-32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-12 | SVE-33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-13 | SVE-34 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-14 | SVE-35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-15 | SVE-36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-16 | SVE-37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-17 | SVE-38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-18 | SVE-39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-19 | SVE-40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-20 | SVE-41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVE-21 | SVE-42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Tables, Graphs & Figures Table - Sampling Data Graph - Mass Extraction Graph - Total VOC removal - Data under validation</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Comments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Data presented here is for informational purposes only. Not all data presented in this report has been validated.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Table
Summary of Effluent Analytical Results
Groundwater Treatment System
American Chemical Service NPL Site
Griffith, Indiana

| Event Date | Month 96 5/19/2005 | Month 97 6/29/2005 | Month 98 7/12/2005 | Effluent Limits | Lab Reporting Limits |
|-------------------------------|-----------------------|-----------------------|-----------------------|-----------------------------|----------------------|
| pH | 8.18 /J | 7.39 /J | 7.17 /J | 6-9 | none |
| TSS | NS | NS | 6.00 | 30 | 10 |
| BOD | NS | NS | < 2 / UJ | 30 | 2 |
| Arsenic | NS | NS | 6.3 B/ | 50 | 3.4 |
| Beryllium | NS | NS | ND | NE | 0.2 |
| Cadmium | NS | NS | ND | 4.1 | 0.3 |
| Manganese | NS | NS | 9.4 B/UB | NE | 10 |
| Mercury | NS | NS | ND | 0.02 (w/DL = 0.64) | 0.64 |
| Selenium | NS | NS | ND | 8.2 | 4.3 |
| Thallium | NS | NS | ND | NE | 5.7 |
| Zinc | NS | NS | ND | 411 | 1.2 |
| Benzene | 0.50 U/ | 0.50 U/ | 0.50 U/ | 5 | 0.5 |
| Acetone | 2.8 B/ 10 UBJ | 1.5 J/ | 2.5 U/ | 6,800 | 3 |
| 2-Butanone | 2.5 U/ | 2.5 U/ | 2.5 U/ | 210 | 3 |
| Chloromethane | 0.50 U/ | 0.50 U/ | 0.3 J/ J | NE | 0.5 |
| 1,4-Dichlorobenzene | 0.50 U/ | 0.50 U/ | 0.50 U/ | NE | 0.5 |
| 1,1-Dichloroethane | 0.50 U/ | 0.50 U/ | 0.50 U/ | NE | 0.5 |
| cis-1,2-Dichloroethene | 0.50 U/ | 0.50 U/ | 0.50 U/ | 70 | 0.5 |
| Ethylbenzene | 0.50 U/ | 0.50 U/ | 0.50 U/ | 34 | 0.5 |
| Methylene chloride | 0.26 JB/ 10UB | 2.5 B/ UB | 0.50 U/ | 5 | 0.6 |
| Tetrachloroethene | 0.50 U/ | 0.50 U/ | 0.50 U/ | 5 | 0.5 |
| Trichloroethene | 0.50 U/ | 0.50 U/ | 0.50 U/ | 5 | 0.5 |
| Vinyl chloride | 0.50 U/ | 0.50 U/ | 0.50 U/ | 2 | 0.5 |
| 4-Methyl-2-pentanone | 2.5 U/ | 2.5 U/ | ND /UJ | 15 | 3 |
| bis (2-Chloroethyl) ether | NS | NS | ND | 9.6 | 9.6 |
| bis(2-Ethylhexyl) - phthalate | NS | NS | ND | 6 | 6 |
| 4 - Methylphenol | NS | NS | ND | 34 | 10 |
| Isophorone | NS | NS | ND | 50 | 10 |
| Pentachlorophenol | NS | NS | ND | 1 | 1 |
| PCB/Aroclor-1016 | NS | NS | ND | 0.00056 (w/DL = 0.1 to 0.9) | 0.5 |
| PCB/Aroclor-1221 | NS | NS | ND | 0.00056 (w/DL = 0.1 to 0.9) | 0.92* |
| PCB/Aroclor-1232 | NS | NS | ND | 0.00056 (w/DL = 0.1 to 0.9) | 0.5 |
| PCB/Aroclor-1242 | NS | NS | ND | 0.00056 (w/DL = 0.1 to 0.9) | 0.5 |
| PCB/Aroclor-1248 | NS | NS | ND | 0.00056 (w/DL = 0.1 to 0.9) | 0.5 |
| PCB/Aroclor-1254 | NS | NS | ND | 0.00056 (w/DL = 0.1 to 0.9) | 0.5 |
| PCB/Aroclor-1260 | NS | NS | ND | 0.00056 (w/DL = 0.1 to 0.9) | 0.5 |

Notes:

Bolded result indicates a exceedence of the discharge limit
pH data is expressed in S.U.

Metals, VOC, SVOC and PCB data is expressed in ug/L

ND = Not detected

NS = This analyte was not sampled or analyzed for

NE = No effluent limit established.

DL = Detection limit

* = Approved SW-846 method is incapable of achieving effluent limit.

DRAFT VERSION

For Informational Purposes Only

Not all data presented here has been validated
Notes and suffix definitions have not been updated.

Suffix Definitions:

/J = Data qualifier added by laboratory

/_ = Data qualifier added by data validator

J = Result is estimated

B = Compound is also detected in the blank

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value

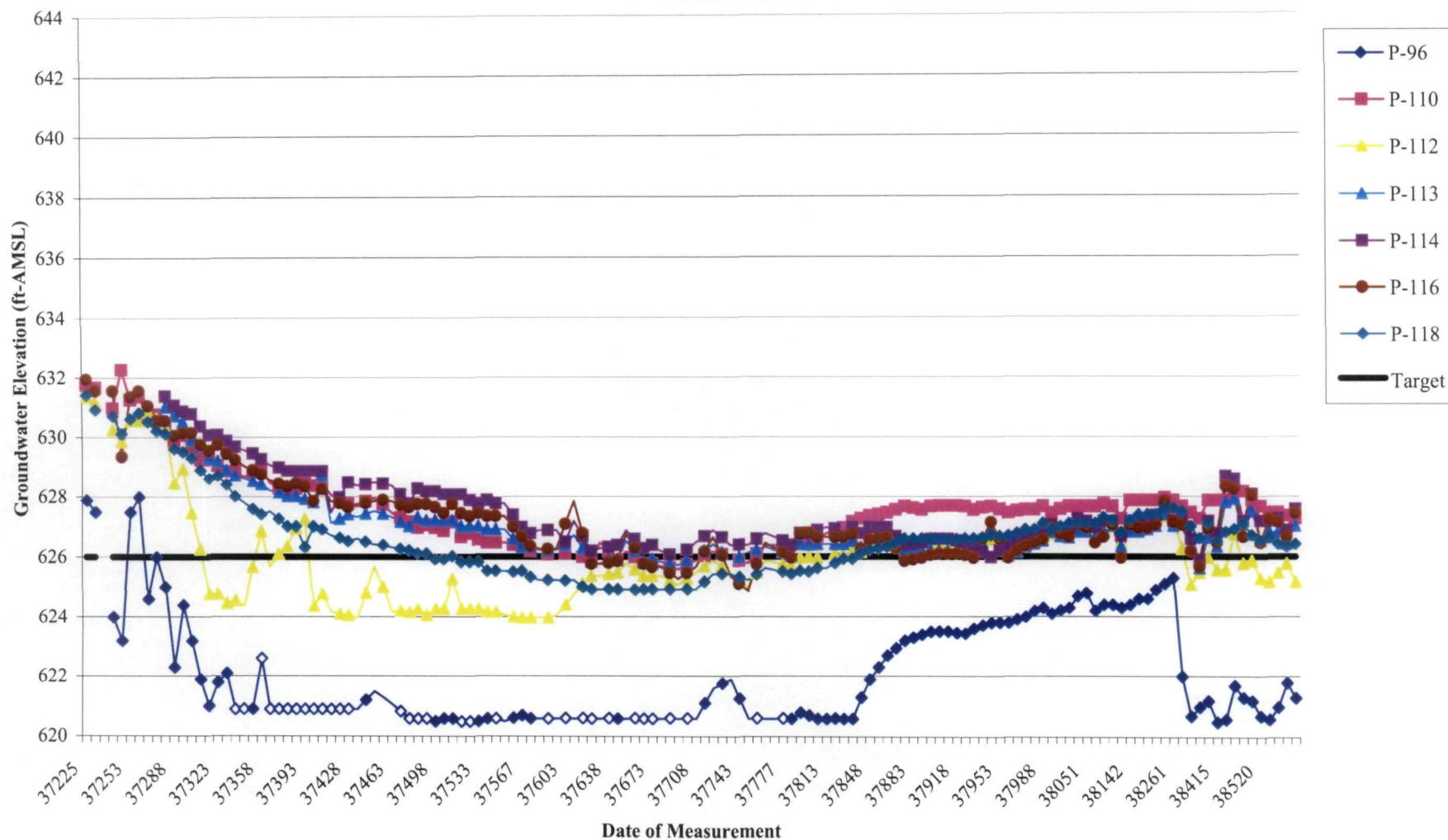
JB = Result is detected below the reporting limit and is an estimated concentration.

The compound is also detected in the method blank resulting in a potential high bias

UB = Compound or analyte is not detected at or above the indicated concentration due to blank contamination

UBJ = Analyte is not detected at or above the indicated concentration due to blank contamination, however the calibration was out of range. Therefore the concentration is estimated.

Figure 3
Off-Site Water Level Status - Piezometers
Groundwater Monitoring
ACS NPL Site
Griffith, Indiana



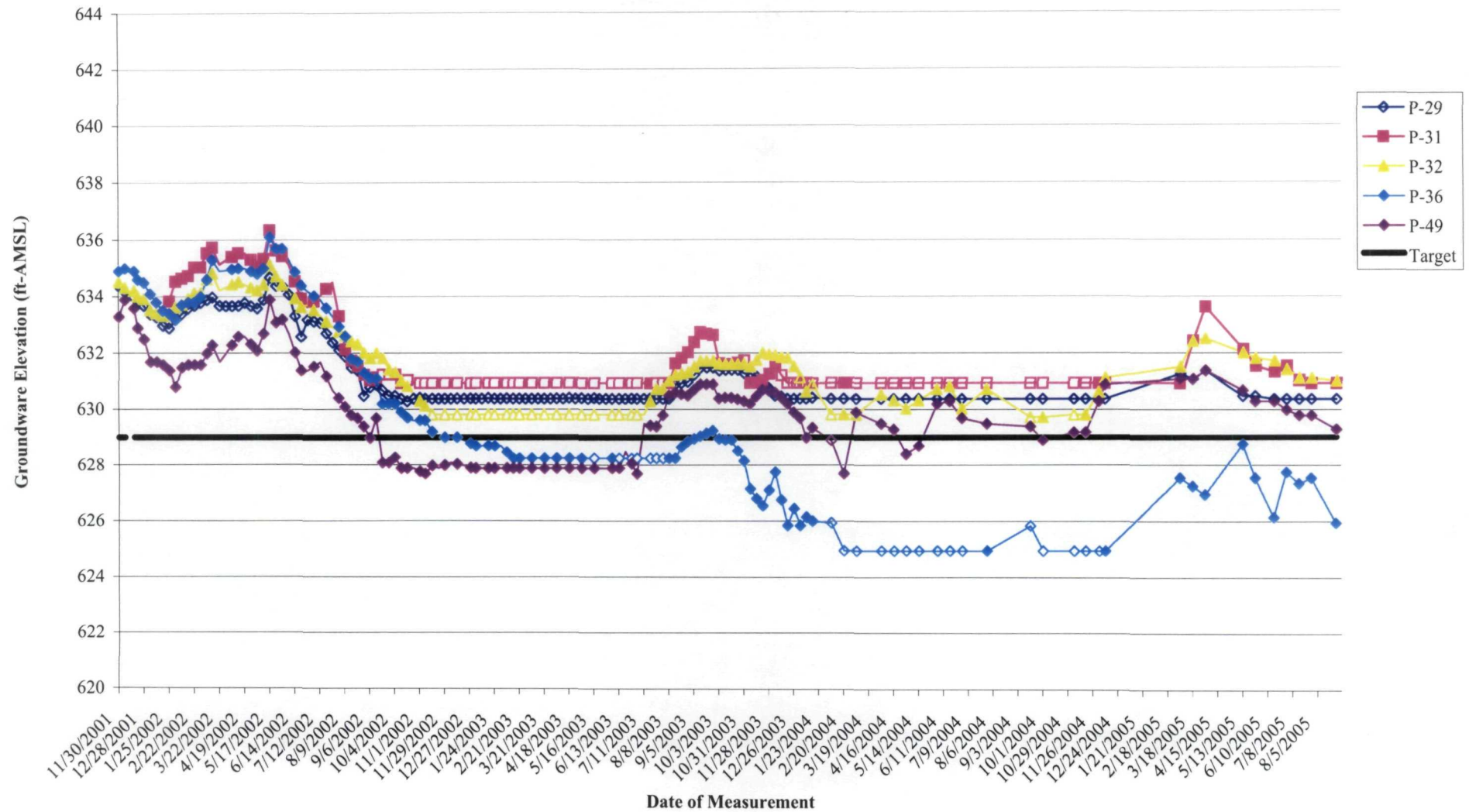
Note:

Hollow points represent dry piezometers
(data used for graphing purposes only). The bottom elevation of the piezometers may vary due to silting

ALC/jmf

J:/209/0603/0301/BWES and Dewatering Data/Dewatering.xls/Off-Site Chart

Figure 1
SBPA Water Level Status
ACS NPL Site
Griffith, Indiana



Note:

Hollow points represent dry piezometers (data used for graphing purposes only).

The bottom elevation of the piezometers may vary due to silting of the well or removal of silt.

ALC/jmf/CAD

J:/209/0603/0301/BWES Data/Dewatering.xls/On-Site Chart

Table 3
SBPA and Off-Site ISVE System Results
for Method TO-14 (VOCs) - July 2005
American Chemical Service
Griffith, Indiana

| Compounds | Units | Sampled 7/11/2005 | | | |
|----------------------------------|--------------|-------------------|-----|----------------|-----|
| | | SBPA ISVE | | Off-Site ISVE | |
| 1,1,1-Trichloroethane | ppbv | 37,000 | | 42,000 | U |
| 1,1,2,2-Tetrachloroethane | ppbv | ND | U | ND | U |
| 1,1,2-Trichloroethane | ppbv | ND | U | ND | U |
| 1,1-Dichloroethane | ppbv | 4,600 | | 5,600 | U |
| 1,1-Dichloroethene | ppbv | 380 | | 360 | J/J |
| 1,2-Dichloroethane | ppbv | 670 | | 1,900 | U |
| 1,2-Dichloropropane | ppbv | 520 | | 480 | J/J |
| 2-Butanone (Methyl Ethyl Ketone) | ppbv | 1,200 | J/J | 15,000 | U |
| 2-Hexanone | ppbv | ND | U | ND | U |
| 4-Methyl-2-pentanone | ppbv | 1,100 | J/J | 6,500 | U |
| Acetone | ppbv | 2,400 | | 18,000 | U |
| Benzene | ppbv | 10,000 | | 32,000 | U |
| Bromodichloromethane | ppbv | ND | U | ND | U |
| Bromoform | ppbv | ND | U | ND | U |
| Bromomethane | ppbv | ND | U | ND | U |
| Carbon Disulfide | ppbv | 1,300 | J/J | 2,200 | J/J |
| Carbon Tetrachloride | ppbv | ND | U | ND | U |
| Chlorobenzene | ppbv | ND | U | ND | U |
| Chloroethane | ppbv | 730 | | ND | U |
| Chloroform | ppbv | 12,000 | | 4,200 | U |
| Chloromethane | ppbv | ND | U | ND | U |
| cis-1,2-Dichloroethene | ppbv | 34,000 | | 4,600 | U |
| cis-1,3-Dichloropropene | ppbv | ND | U | ND | U |
| Dibromochloromethane | ppbv | ND | U | ND | U |
| Ethyl Benzene | ppbv | 18,000 | | 21,000 | U |
| m,p-Xylene | ppbv | 76,000 | | 86,000 | U |
| Methylene Chloride | ppbv | 10,000 | | 42,000 | U |
| o-Xylene | ppbv | 32,000 | | 30,000 | U |
| Styrene | ppbv | ND | U | ND | U |
| Tetrachloroethene | ppbv | 50,000 | | 42,000 | U |
| Toluene | ppbv | 92,000 | | 160,000 | U |
| trans-1,2-Dichloroethene | ppbv | ND | U | ND | U |
| trans-1,3-Dichloropropene | ppbv | ND | U | ND | U |
| Trichloroethene | ppbv | 30,000 | | 31,000 | U |
| Vinyl Chloride | ppbv | 1,600 | | 350 | J/J |
| Total | ppbv | 415,500 | | 545,190 | |
| Total | lb/hr | 11.94 | | 9.14 | |

Notes:

_ / - Laboratory data qualifier

_ / - Data validation qualifier

NC - Not calculated

ND - Non-detect

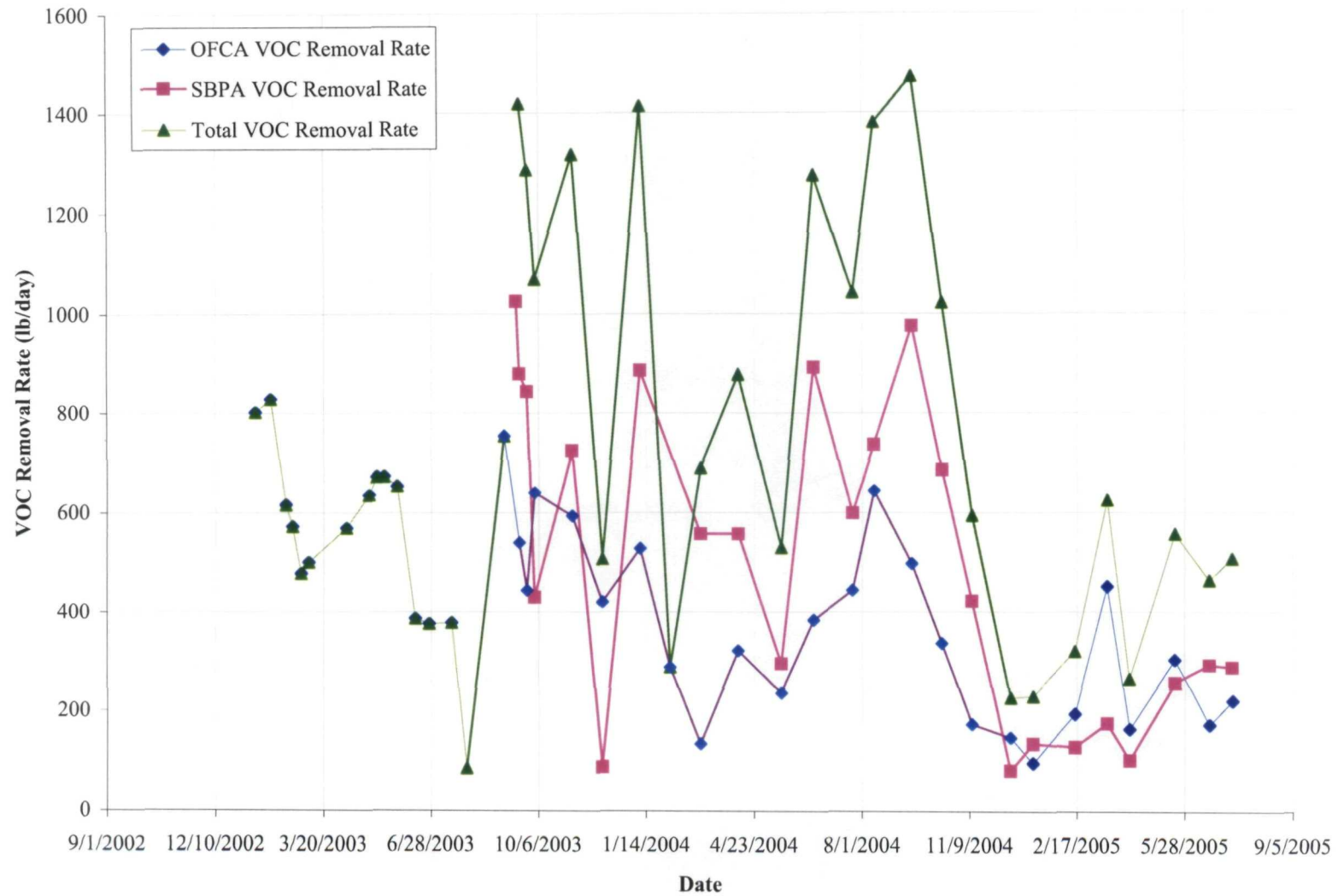
ppbv - parts per billion volume

lb/hr - pounds per hour

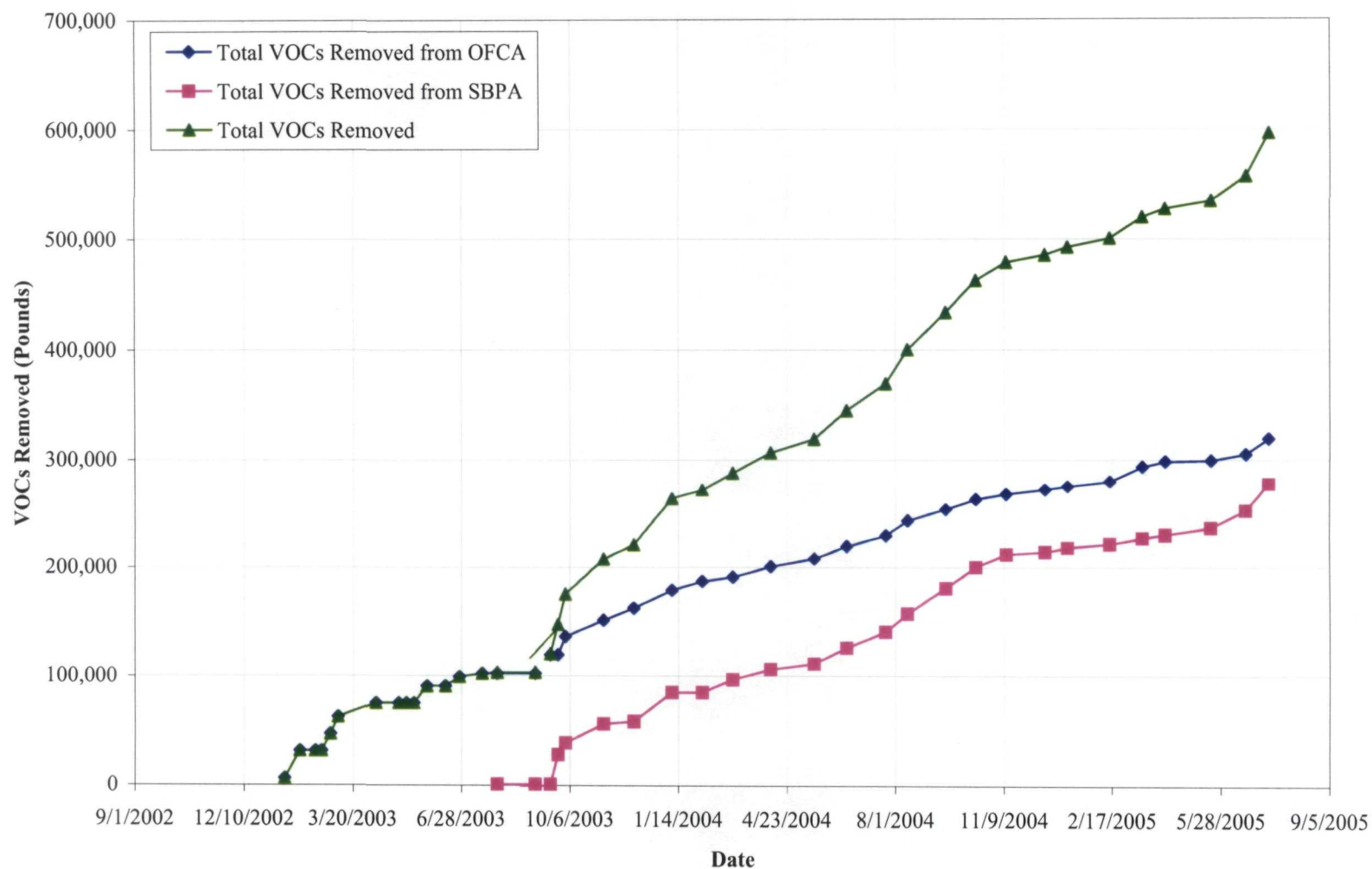
7/11/05 VOCs in lb/hr calculated based on Offsite: 1377 scfm, 78 degrees Fahrenheit (7/11/05)

On-site: 1360 scfm, 110 degrees Fahrenheit (7/11/05)

VOC Removal Rate
American Chemical Services NPL Site, Griffith, IN



Total VOCs Removed **American Chemical Services NPL Site, Griffith, IN**



(46)

9 August 05

0805 Arrive on site

Clear, warm, calm 77°F

Personnel On Site:

| | |
|----------------|---------|
| Lee Cruz | MWH |
| Adam Norris | " |
| Justin Miller | Boart |
| Wes Redman | " |
| Tim Robinson | " |
| Amy Clare | MWH |
| Kenny Doane | PSA |
| Kevin O'Neal | ISOTEC |
| Robert Tierman | PSA |
| Gary Schreiber | ISOTEC |
| Steve Major | " |
| Tim Kirkland | Austgen |
| Beth Hivley | W&K |
| Jerry Cramer | " |
| Larry Campbell | BUSPC |
| Prubhakar | IDEM |

0810 Disc w/ Amy at ISOC

Get 20 Isoc prints done yesterday
after tailgate H&S mtg. Used 4
pumps to inject in West lane of
Colfax Ave. Expect to complete

Jim Campbell

(47)

West lane injections today and
move equipment to E. side

0830 VISIT LA invest site. Dr. Kew
mobilized to site yesterday, had H&S
tailgate mtg this morning, and are
now setting up at location of LA12
Wells in place w/ pro caps & cone,
pad include LA15, 14, 13, 11

0845 Photo 77-03 looking NW at
Boart setting liquid circulation
pan at LA12 looking W at

0913 Photo 77-04 filling 8" casing
seated in clay at 14' bgs w/ water
for leak test

0930 Photo 77-05 looking N at 8" casing
at LA12. Note only 1/8" drop
in water level in 15 minutes. Passed
(Allowed 1" drop in 15 min.)

0950 Collected Soil Sample from
15'-20' bgs.

1000 Continue drilling below 20' bgs

1003 Photo 77-06 looking W at 1" casing
black plastic pipe used to transfer
recovered drill water from LA invest.
site to GLWTP

Jim Campbell

(48)

1020 Visit 150C site and observe
PSA installing inj. points thru
roadway asphalt on W. lane of
Colfax Ave.

1053 Photo 77-07 looking SW
at 4 ISCO pumps being used

1055 Photo 77-08 looking NE at
4 injection points in W lane
of Colfax Ave being injected.

Note PSA installing point in background

1136 Photo 77-09 looking SE at
PSA backfilling injection point
w/ sand.

1200-1300 Lunch Break

1300 Continued drilling at LA12

1354 Photo 77-10 looking NW at
transfer of drill return water to
holding tank for future transfer
to GWTP

1500 LA12 at 75' lost core! sample
from 70'-75' logs. Continue drilling

1512 ISCO complete in West lane Colfax
and began moving equip to E side

1515 Left site for day

Tom Campbell

(49)

11 Aug 05
0830 Arrive Onsite

Overcast, rain, warm 77°F

Personnel On Site

Lee Cross MWH

Amy Clark "

Beth Hickey W&K

James Robinson Becht

Adam Harris MWH

Justin Miller Becht

Wes Redman "

Jerry Cismell W&K

Kenny Deane PSA

Robert Tieman "

Gary Schlicher ISCO

Sean Collins "

Steve Meyer "

Tim Kirkland Austgen

Mike Boudewyn Microbac

Peter Vest MWH

Larry Campbell B&S PC

No work performed at ISCO or
LA Invest. sites because of lightning
& rain

Tom Campbell

(50)

- 1000 Construction Mtg
 See pg 51 for notes
- 1130 Began installing ISCO
 points on E lane of Calfax
- 1330 Photo 77-11 looking N at
 injection points in E lane of
 Calfax Ave
- 1406 Photo 77-12 looking NW at
 Bourt set up for drill extraction
 well
- 1250 Drillers had keyed 9" casing
 into clay and performed
 satisfactory water seal test
 Sealed in clay at 12' bgs
- 1308 Continued drilling thru clay
 into LA using 8" casing
 & 4" sample tube
- 1436 Drilling stopped at 37' bgs
 because of heavy rain
- 1455 Drilling resumed - cleaned
 cuttings pan. Mixed dry
 mud
- 1515 Resumed drilling
- 1530 drilling at 145'
- 1600 Left site for Day

Jim Campbell

(51)

Construction Mtg Note

Personnel Attending

- At Site

Pete Vast, Lee Orosz, Amy
 Clare, Adam Norris - MWH

Larry Campbell - BUSPC

- By Phone

Chris Daly, Todd Lewis, Maxwell
 Kevin Adlar - USEPA

- INDOOR AIR Sampling

Kevin indicated that results of
 indoor air sampling in basement of
 1002 Redor Rd indicated more
 sampling was not necessary

- H₂S - NO ISSUE since last mtg.

Today there is rain, thunder &
 lightning - so both contractors are
 not working till rain & lightning stops

- Has been V. hot - contractors have
 plenty of liquids for employees

- Have had some Wasp nests built
 near GWT - destroyed them.

- Chemex - started again on
 Monday Aug 8 in W lane of

Jim Campbell

(52)

Calfax Ave. Completed west lane injection points on Tues 9 Aug & moved to E. Side. At end of day yesterday had completed 53 of 67 points in Calfax Ave - 14 remain. Could finish today, but probably tomorrow.

ASGEC is using 4 pumps to speed up operation. Walsh & Kelly is directing traffic.

Chris Daly talked to City re

traffic control - no problems

Lower Aquifer Invest - Per MWH request, Boart replaced it previous Bobcat loader w/ one whose backup alarm works.

- Drillers are getting more successful at drilling into LA sands

- Drilled & installed LA 12 on 9 Aug

- Drilled & installed ~~LA 12~~ on 10 Aug. 10' Screens set from 70' to 80'

- At LA 12, recorded 10-12 ppm in LA Upper Sands

- Started drilling EW today - got to clay & stopped because of lightning

Jim Campbell

(53)

- Will add new Stainless Steel MW 57 near LA 11 w/ 5' screen in LA Sand below clay cover & thin clay silt strata

GWTP - Running well

- one of smaller air blower was worn out - will replace
Groundwater Sampling, Pump Test

& LA well development will be rescheduled

ACS Const Comp Rpt - to be completed by end of September. Pete went as (EPA, IDEM, BUSE) to review draft in pieces (text, table, figure) before MWH combines into final form.

- MWH will send draft last week of August & would like 1 wk turnaround MWH

- No odors detected by ACS in breather

- Pond screen has gone away w/ biweekly treatments

- DPE Wells working OK probably pumping 40 gpm. Need another 10 gpm air pump at blower shed

- SBRP 15E improvements +

Jim Campbell

(54)

MWH has the plan & pricing
Needs to discuss w/ client. WY
probably start talk to client
this month, & ~~order~~ / install
later

Next Meeting

Thursday 18 Aug @ 10 AM
at site

Well Development — will probably
be done by MWH w/o driver

1035 Mtg over

1045 Representative of IDEM Emergency
Response Team responded to
phone in report of Hydrogen
peroxide spill at 1500. Was
not true — no spill — he
left satisfied

1600 Left site for Day

Jim Campbell

(55)

15 Aug 05

0830 Arrive On-site

Partly Cloudy, calm, warm 75°F
Personnel On-site

| | |
|----------------|-------|
| Lee Orosz | MWH |
| James Robinson | Boart |
| Wes Redman | " |
| Adam Morris | MWH |
| Justin Miller | Boart |
| Larry Campbell | BLSR |

0905 Visit LA In West. site

Driller setup & drilling for
LA well MW57 to be screened
in top of lower aquifer — located
7' S of LA11

0908 Photo 77-13 Looking SE at drill

rig setting 8" surface casing for MW57

0924 Photo 77-14 looking down onto 8"
casing thru jaws of drill rig

0925 8" Casing seated into clay at 12'
started leak test — lost $\approx 3/4$ " water
in 5 minutes — NO Good — Pushed —
8" deeper into clay & restarted
leak test. NO Leakage after
15 min — Good test

Jim Campbell

(56)

- 0937 Photo 77-15 looking N at
drillers mixing SakCrete in Tarp
to place in conc. Surface pad
at ~~LA~~ time LA-12
- 0940 Photo 77-16 looking N at
driller finishing conc. pad
at LA12
- 0947 Photo 77-17 looking NW at
water level in 8" casing +
driller placing bentonite to
seal mud pan
- 0948 Photo 77-18 looking SW at
driller placing concrete inside
protective cap to seal casing
- 0953 After successful seal test
of 8" surf. casing. driller
continued drilling thru clay
into underlying LA sand to
set MW57
- 1025 Photo 77-19 looking S at 4"
extraction well EW2. Driller
placing conc. pad on OW1
- 1028 Photo 77-20 looking S at
helper screwing end cap on
2" 4 SS well screen for MW57
Jm Campbell

(57)

- 1032 Photo 77-21 looking N at
helper adding sand to bottom of
bare hole for MW57
- 1035 Photo 77-22 looking E at
drillers screwing 2" SS riser pipe to
2" SS well screen
- 1054 Photo 77-23 looking E at driller
adding bentonite chips in MW57
above sand pack. Bottom of
Well Set at 25' bgs. 2" sand
above screen to 18' bgs, then 3'
bentonite chips to 15' bgs. Then
add bentonite grout to surface.
- 1100 Adam reported that EW2 was
drilled & installed Saturday
8/13/05. Drilled to 87' into till
Set screen at 29'-84' bgs
- Also abandoned LA wells
drilled during Phase II
- 1109 Photo 77-24 looking down
onto MW57 showing placement
of bentonite grout using PVC
tremie pipe
- 1124 Photo 77-25 looking down at
MW57. Driller adding man
Jm Campbell

(58)

0937 Photo 77-15 Looking N
at drillers mixing concrete
in tarp to pour conc. pad
at LA 12

benonite grout to fill annulus
after removing surface casing

1126 Photo 77-26 looking E
at Bobcat removing mud pan
from MW57 borehole

1133 Photo 77-27 looking NW
showing Adam Norris logging
core from MW57

1200 Left site in day

(59)

18 August 05

0905 Arrive On Site

Clear, warm, calm 77°F

Personnel On Site

Lee Orosz MWIT

Adam Norris "

Tim Kirkland Rustgen

Larry Campbell BUSPC

Adam reported drillers surged EWC
on Tues - pulled v. little sediment.

On Wed 8/17/05, Adam trained Brock
on development techniques & developed OWI
Adam leaving site today. MWIT to develop
remaining LA wells

1000 Construction Mtg

Attendees

- Site

* Lee Orosz & Adam Norris MWIT

* Larry Campbell - BUSPC

- Phone - MWIT Chicago office

* Pete Vagty, Chris Dalry, &

Amy Clare - MWIT

HHS

No issues at GWTP since
last mtg. Last Thur. after
Const mtg, representative

Tim Campbell

(60)

of IDEN spill response team stopped
to investigate a report of a
peroxide spill. ISOTEC was
not working because of rain &
was off next spill. Inspector
left site satisfied.

Lower/Midwater Invest
- Drilling and well installation was

completed on Monday 8/15/05 &
demolished. All 8 LA wells
were installed and 7 Ph. 1 LA

wells were abandoned by drilling
1' deeper than design & backfilling
in bentonite. Wells cut off 2'
bgs, cement in concrete, then seal

- Drillers surged & pumped now
EW 2. Got V. little seal. went
in well. It is ready for

production.

- Adam trained Day Brock yesterday
how to develop pump wells LA 11-15
by developing new MWS's.

- Best decision drill rig
and equipment at GUTP
prior to leaving site.

Tom Cummings

(61)

Wood chip on wetland paths got
caught in treads of chainsaw, those
wood chips clogged up sumps
in decan pad. of Caged pump
shut down of GUTP. After
clean out sumps - GUTP returns
to normal ops.

8th/9th INVEST

The final points in California
were completed on Thursday (10
points) and Friday (4 points).

ISOTEC & PMA demanded on Friday
Aug 12. In another portion of
a 4th injection pressure, ISOTEC
left their mixing tanks and
back in same area

GUTP - Working well except for
problems to chips from drill rig.
decen. All pumps working well
ISOTEC Systems working well also.

pulling 1000 @ 2000 CFM
Index air quality at 1022 Recker Rd.

Last we been after indicator that
add'l sample wouldn't be necessary.

Tom Cummings

(62)

Look Ahead

- Develop LA wells
- Sample LA wells
- Conduct pump test
- Need maintenance on wetland pathways & LA drilling areas
- Need to lay larger dia pipe for pump test ~~plus~~ ^{for} ~~testing~~
- Need to obtain Baker tank to hold pump test ~~at~~ ^{for} ~~testing~~ water
- ISOC Post application sampling may be delayed
- 4th & 12th GW sampling in Sept.
- MWH will assess staffing needs & avail. lab. info & will propose future schedule for those upcoming events

Next Mts

at minimum will be conf.
Call @ 10AM Thur 8/25/05

1031 Mtg over

1100 Left site for day

Jim Campbell

(63)

23 Aug 05

0850 Arrive onsite

Clear, calm, cool 72°F

Personnel onsite

Lee Orosz MWH

Clay Bach M

David Powers "

Robert ~~Am~~ ^{Gov} ~~Bach~~ ^{Austgen}

Larry Campbell BWSRC

0855 Lee Orosz said MWH personnel were obtaining equipment to perform well development of lower aquifer wells. Plan to start well development later this morning.

0900-1030 Review monthly report in trailer

1040 visit LA wells to check progress of well development setup progress

1055 Photo 78-01 looking E at MWH starting to surge LA 11 using surge block.

Had difficulty getting surge block to descend into well. So started to use bailer to develop well LA 11

Developed well for 15 min. w/ bailer. Then bailed out fines for 5 min.

Jim Campbell

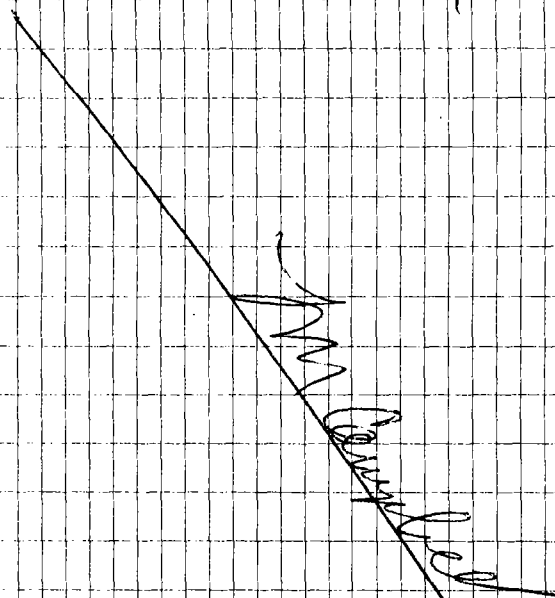
(64)

- 1140 Photo 78-2 looking ~~W~~ E
showing pouring water from
boiler
- 1145 Photo 78-3 looking NE at
Muit preparing to lower peristaltic
pump into well LA11
- 1202 Photo 78-4 looking N at
pump setup to develop LA4
plan to remove 1750 gal drilling
water + R well volumes (≈ 200 gal)
from LA11. Well is 88' deep.
Pump set at 78' bgs - at
tz of 10' screen. Pumping
at 5 gpm
- 1215 Photo 78-5 looking NE
along line of Phase 1 LA must.
wells in middle of marsh area
following their abandonment
- 1216 Photo 78-6 looking W
at abandoned LA well
LA . Cut off 2' bgs
covered w/ concrete & soil
- 1240-1340 Lunch
- 1400 Photo 78-7 looking SW at
Blower ME104 - not working

Jim Campbell

(65)

- 1415 Photo 78-8 looking N at holding
tanks for development water. Clear
(white) tubing pumping development
water into L holding tank. Sump
pump in R tank pumping water
thru black pipe to GWT
- 1445 Left site for day



(66)

25 August 05

1000 Construction Coord. Mtg.

At Site: Lee Cross & Dave Powers

At MWH: Pete Vast, Chris Daly, Murt

At BWSR: Larry Campbell

HHS - No issues since last mtg.

- Replaced blower unit on ME103 using
a lift to remove & replace the
heavy unit - went well

- Pumped product from SBRA

DPE wells - No issues - appropriate
air monitoring

Well Development -

Started developing LA11 on
Tues. Develop LA12 on Wed.

Developing LA13 today (Thurs).

Plan to develop LA15 Friday.

Remaining wells EW2, OW2 & LA14
have ponds of water surrounding
them. Will delay for a while

- Pumping water from wells into tanks
& then pumping from tanks to GUTP

Next mtg - Friday Sept 2 @ 11 AM

1020 Call End

See Notes on
page 66A+B

JM Campbell

(66A)

2 Sept 05 Friday
1100 O&M Mtg @ mwr office

Attendees

Pete Vagt mwr

Chris Daly "

Amy Clare "

Lee Orogz " phone

Kevin Adler EPA

Mark Travers Environ phony

Larry Campbell BUSE

H&S - NO issues this past month.
Subcontractor had tailgate mtf's
daily. Blower portion of ME104
replaced using mechanical lift -
no problems

EWTP operated 29 of 31 days - down
because wood chips from LA
drill rig decan clogged pumps -
which overfilled & shut down
EWTP. Also loss of power on 8/19
Restarted 8/20

ISUE Thermax 1 down on 8/19 - ^{Power} failure
repaired scrubber Quinch ducting
back in opn on 8/23

Thermax 2 down because of
JM Campbell

(66B)

Caustic leak. Serviced unit &
restarted 8/24 Will repair heat
exchanger (w/ Global) in Oct.
Upgrade SBRA ISUE - plan to
order parts for long lead-time
items. 6-8 wk lead time, 2 wk
to install

LA Investigations

- MWR will retain Austgen to repair
pathways to MW in wetland
- 3 LA wells have been developed
but others are needed.

Interaction w/ Community - ACS

Spring to July/Aug Schedule MWR
plans to brief ACS employees soon

Lock Away

- LA Ph.2 - well development, well
sampling, pump test.
- Chemox - Post-Appl Sampling
- Groundwater Monitoring - Sampling
of MW & Res wells
- Final Inspection w/ EPA, IDEN
Sept 22. at 11 AM

Next Mtg Sept 22 @ 10 AM
1200 Mtg over

JM Campbell



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #1
 Date: 08-01-05 Time: 1331
 Photographer: Larry Campbell
 Description: Photo facing east showing Boart cleaning sand from mud tub at LA11A (replacement well for abandoned LA11). Drilled casing to 14.5' bgs.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #2
 Date: 08-01-05 Time: 1346
 Photographer: Larry Campbell
 Description: Photo facing east showing water holding test in casing. About 1/2" water loss in 15 minutes. Therefore, casing seal into clay is satisfactory.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #3
 Date: 08-09-05 Time: 0845
 Photographer: Larry Campbell
 Description: Photo facing northwest showing Boart
 setting mud tub at LA12.

Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #4
 Date: 08-09-05 Time: 0913
 Photographer: Larry Campbell
 Description: Photo facing west showing Boart filling 8"
 dia. casing (seated in clay at 14' bgs) with
 water for leak test.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #5
 Date: 08-09-05 Time: 0930
 Photographer: Larry Campbell

Description: Photo facing north showing 8"-dia. casing of LA12 during water leak test. Note only 1/8" water drop in 15 minutes; therefore test is good.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #6
 Date: 08-09-05 Time: 1003
 Photographer: Larry Campbell

Description: Photo facing west showing 1"-dia. black plastic pipe (arrow) used to transfer recovered drill water from LA investigation area to GWTP.



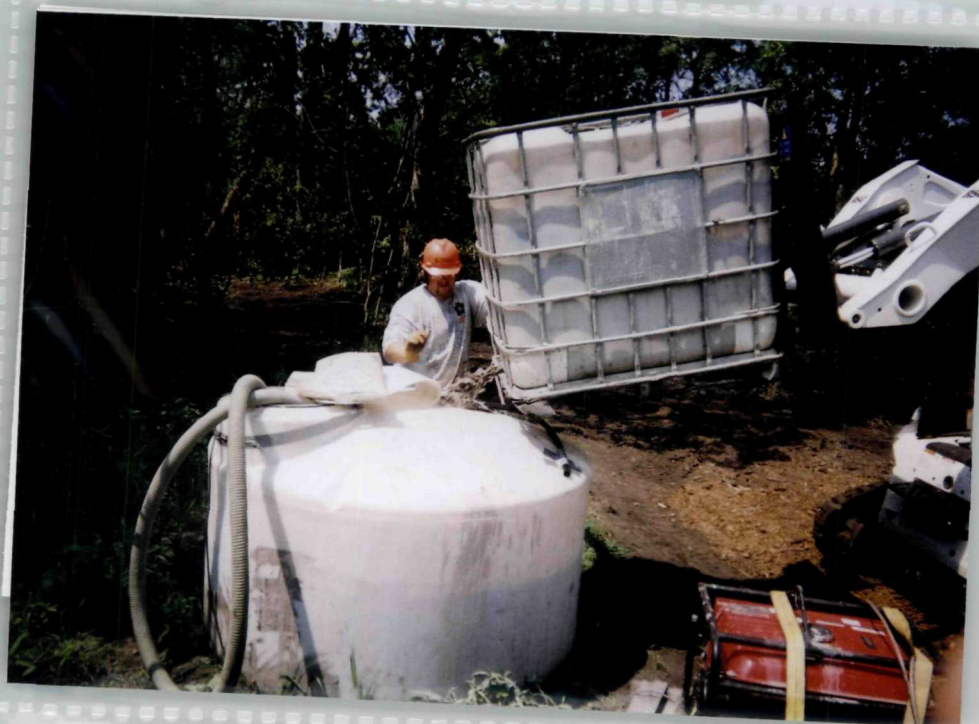
Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #7
 Date: 08-09-05 Time: 1053
 Photographer: Larry Campbell
 Description: Photo facing southwest showing four ISCO pumps being used to inject fluids.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #8
 Date: 08-09-05 Time: 1055
 Photographer: Larry Campbell
 Description: Photo facing north showing four injection points in west lane of Colfax Ave. being injected at same time. PSA is installing injection point in background.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #9
 Date: 08-09-05 Time: 1136
 Photographer: Larry Campbell
 Description: Photo facing southeast showing PSA
 backfilling injection point hole with sand.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #10
 Date: 08-09-05 Time: 1354
 Photographer: Larry Campbell
 Description: Photo facing northwest showing transfer of
 drill return water to holding tank for solids
 settlement and future transfer of liquid to
 GWTP.



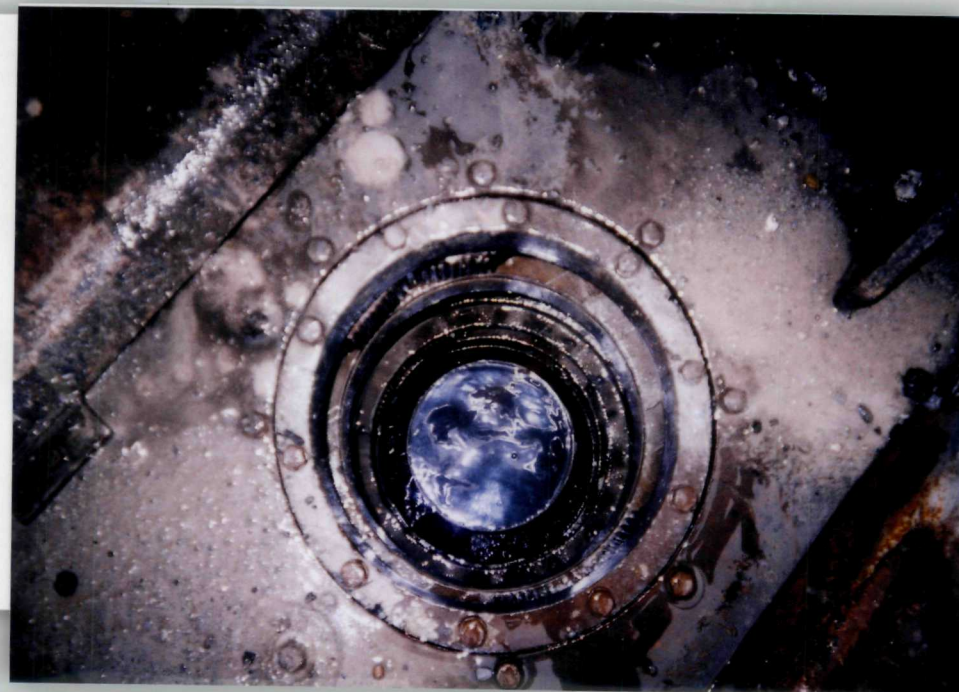
Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #11
 Date: 08-11-05 Time: 1330
 Photographer: Larry Campbell
 Description: Photo facing north showing injection points
 in east lane of Colfax Ave.



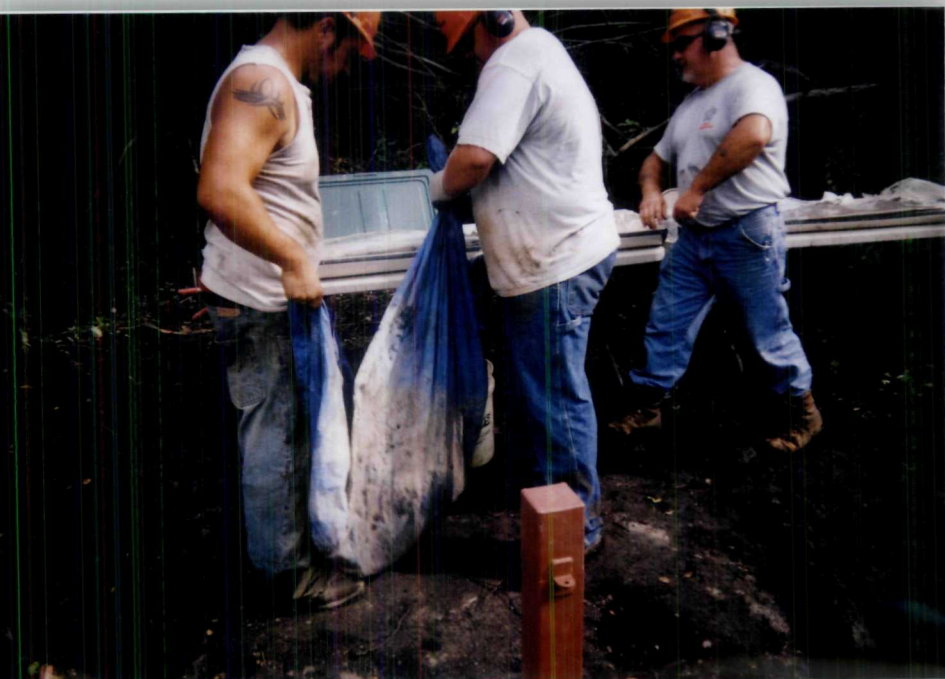
Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #12
 Date: 08-11-05 Time: 1406
 Photographer: Larry Campbell
 Description: Photo facing northwest showing Boart set-
 up to drill extraction well. Note muddy
 conditions from recent rains.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #13
 Date: 08-15-05 Time: 0908
 Photographer: Larry Campbell
 Description: Photo facing southeast showing drill rig
 setting 8"-dia. casing for MW57.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #14
 Date: 08-15-05 Time: 0924
 Photographer: Larry Campbell
 Description: Photo facing downward through jaws of drill
 rig showing 8"-dia. casing containing water.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #15
 Date: 08-15-05 Time: 0937
 Photographer: Larry Campbell
 Description: Photo facing north showing drillers mixing
 SakCrete in tarp to place in concrete
 surface pad at LA12.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #16
 Date: 08-15-05 Time: 0940
 Photographer: Larry Campbell
 Description: Photo facing north showing driller finishing
 concrete surface pad at LA12. Other driller
 in background is dumping another bag on
 SakCrete onto tarp for mixing.



Site: American Chemical Service, Inc.

Proj. #: 44728 AES [46526 RAC]

Roll: 77 Photo #17

Date: 08-15-05 Time: 0947

Photographer: Larry Campbell

Description: Photo facing northwest showing water level in 8"-dia. casing. Driller is placing bentonite around casing to seal it to the mud pan.



Site: American Chemical Service, Inc.

Proj. #: 44728 AES [46526 RAC]

Roll: 77 Photo #18

Date: 08-15-05 Time: 0948

Photographer: Larry Campbell

Description: Photo facing southwest showing driller placing concrete inside protective cap to seal casing.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #19
 Date: 08-15-05 Time: 1025
 Photographer: Larry Campbell
 Description: Photo facing south showing 4"-dia.
 extraction well EW2 (foreground). Driller
 placing concrete surface pad at OW1.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #20
 Date: 08-15-05 Time: 1028
 Photographer: Larry Campbell
 Description: Photo facing south showing driller's helper
 screwing end cap on 2"-dia. stainless steel
 well screen to be installed as MW57.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #21
 Date: 08-15-05 Time: 1032
 Photographer: Larry Campbell
 Description: Photo facing north showing driller's helper adding sand to bottom of bore hole for MW57. Driller checking depth to top of sand with tape.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #22
 Date: 08-15-05 Time: 1035
 Photographer: Larry Campbell
 Description: Photo facing east showing drillers screwing 2"-dia. stainless steel riser pipe to 2"-dia. SS well screen..



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #23
 Date: 08-15-05 Time: 1054
 Photographer: Larry Campbell
 Description: Photo facing east showing driller adding bentonite chips in MW57 above sand pack. Bottom of well set at 25' bgs.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #24
 Date: 08-15-05 Time: 1109
 Photographer: Larry Campbell
 Description: Photo facing downward through jaws of drill rig into MW57 showing placement of bentonite grout using PVC tremie pipe.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #25
 Date: 08-15-05 Time: 1124
 Photographer: Larry Campbell

Description: Photo facing downward showing driller adding more bentonite grout to fill annulus around SS riser after removing surface casing.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #26
 Date: 08-15-05 Time: 1126
 Photographer: Larry Campbell

Description: Photo facing east showing bobcat removing mud pan from MW57 borehole.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 77 Photo #27
 Date: 08-15-05 Time: 1133
 Photographer: Larry Campbell
 Description: Photo facing northwest showing Adam
 Norris logging core from MW57.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 78 Photo #1
 Date: 08-23-05 Time: 1055
 Photographer: Larry Campbell
 Description: Photo facing east showing MWH starting to
 surge LA11 using surge block—didn't work,
 so completed development using bailer.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 78 Photo #2
 Date: 08-23-05 Time: 1140
 Photographer: Larry Campbell
 Description: Photo facing east showing MWH pouring
 water from bailer at LA11.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 78 Photo #3
 Date: 08-23-05 Time: 1145
 Photographer: Larry Campbell
 Description: Photo facing northwest showing MWH
 preparing to lower peristaltic pump into well
 LA11.



Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 78 Photo #4
 Date: 08-23-05 Time: 1202
 Photographer: Larry Campbell
 Description: Photo facing north showing pump set-up
 to develop LA11. Plan to remove 1,750
 gallons + 10 well volumes (~200 gallons)
 from 88' deep well at 5 gpm.

Site: American Chemical Service, Inc.
 Proj. #: 44728 AES [46526 RAC]
 Roll: 78 Photo #5
 Date: 08-23-05 Time: 1215
 Photographer: Larry Campbell
 Description: Photo facing northeast along line of Phase 1
 LA investigation wells in middle of
 marshland, after they have been abandoned.

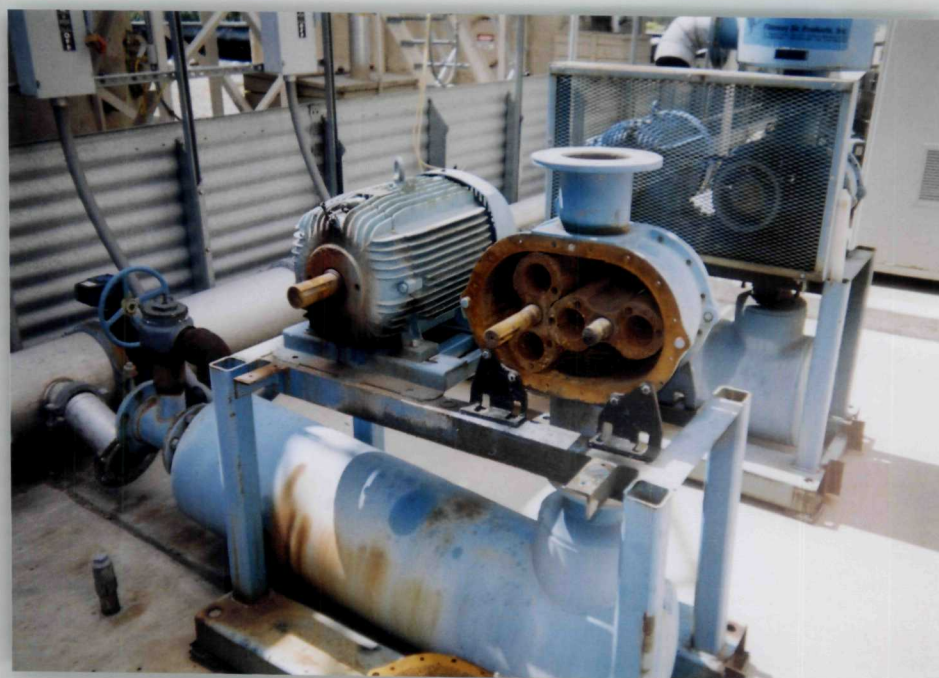
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Site: American Chemical Service, Inc.
Proj. #: 44728 AES [46526 RAC]
Roll: 78 Photo #6
Date: 08-23-05 Time: 1216
Photographer: Larry Campbell

Description: Photo facing west showing location of abandoned Phase 1 LA well. Riser pipe cut off 2' bgs and covered with concrete and soil to surface.



Site: American Chemical Service, Inc.
Proj. #: 44728 AES [46526 RAC]
Roll: 78 Photo #7
Date: 08-23-05 Time: 1400
Photographer: Larry Campbell

Description: Photo facing southwest showing blower ME104 that has been disassembled to check out reason it is non functioning.



Site: American Chemical Service, Inc.

Proj. #: 44728 AES [46526 RAC]

Roll: 78 Photo #8

Date: 08-23-05 Time: 1415

Photographer: Larry Campbell

Description: Photo facing north showing holding tanks for LA well development water. Sump pump in right tank is pumping decanted water through black pipe to GWTP.